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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,084	08/27/2001	Makoto Syoda	213129US0PCT	1962

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EXAMINER

KUMAR, PREETI

ART UNIT

PAPER NUMBER

1751

DATE MAILED: 05/20/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

AS-14

Office Action Summary	Application No. 09/926,084	Applicant(s) SYODA ET AL.	
	Examiner Preeti Kumar	Art Unit 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>11</u> | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. Claims 1-20 are pending.
2. The indicated allowability of Claims 2-4 and 6 is withdrawn upon further search and in light of the New Grounds of Rejection below.

New Grounds of Rejection

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kim et al. (Journal of Fermentation and Bioengineering, Vol. 79, No.6, 601-607, 1995).

Kim et al. teach a *Geotrichum candidum* Dec 1 having peroxidase activity and are responsible for dye-decoloration. See abstract. In Figure 1 and Table 2, Kim et al. teach structures of the dyes that are decolorized by the *Geotrichum candidum* Dec 1. In Table 1, Kim et al. teach that the colonies of *Geotrichum candidum* Dec 1 grown on potato dextrose agar (PDA) medium grow rapidly with a diameter of about 75 mm in 5 days at 25 degrees C.

Accordingly, the broad teachings of Kim et al. appear to anticipate the material limitations of the instant claims.

Alternatively, even if the broad teachings of Kim et al. are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art, to arrive at a peroxidase enzyme derived from *Geotrichum candidum* Dec 1 having the properties recited by the instant claims because Kim et al. teach a peroxidase produced from *Geotrichum candidum* Dec 1 involved in the decolorization of dyes and furthermore, would be expected to inherently have the same properties as recited by the instant claims.

7. Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Kim et al. (Applied and Environmental Microbiology, Mar. 1999, p. 1029-1035).

Kim et al. teach a peroxidase (DyP) involved in the decolorization of dyes and produced by the fungus strain *Geotrichum candidum* Dec 1. DyP, a glycoprotein, is glycosylated with N-acetylglucosamine and mannose and has a molecular mass of 60 kDa and an isoelectric point (pI) of 3.8. Kim et al. teach that nine of the 21 types of dyes that were decolorized by Dec 1 cells were decolorized by DyP; in particular, anthraquinone dyes were highly decolorized. CyP also oxidized 2,6-dimethoxyphenol and guaiacol. The optimal temperature for DyP activity was 30 degrees C, and DyP activity was stable even after incubation at 50 degrees C for 11 hours. See abstract.

Kim et al. teach by experiment *Geotrichum candidum* Dec 1 from a potato dextrose agar (PDA) and incubated at 30 degrees C for 6 days. See materials and methods section on page 1029. In the Discussion on page 1032, Kim et al. teach that a peroxidase that transformed anilines was purified from the culture broth of a strain of *Geotrichum candidum*. Also, in the Results, Kim et al. teach that the mixed DyP fraction consisted of mixed proteins whose molecular masses ranged from 55 to 60 kDa with a pI of 3.8. Accordingly, the broad teachings of Kim et al. appear to anticipate the material limitations of the instant claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.

Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered

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timely. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 703-305-0178. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-872-9309.

Preeti Kumar
Examiner
Art Unit 1751

PK
May 16, 2003


YOGENDRA N. GUPTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700